



PIMACHIOWIN AKI

WORLD HERITAGE PROJECT

The Land that Gives Life

iisd International
Institute for Sustainable
Development Institut
international du
développement
durable

“We know from 1,500 scientists in over 50 countries that protecting the Canadian boreal, which rivals the Amazon in size and ecological importance, makes good environmental sense. Now we are also encouraged to learn that protecting this largest intact forest and wetland ecosystem in the world also makes economic sense.” **Manitoba Conservation Minister Stan Struthers, December 3, 2008.**

“The findings of this economic study solidly support the ongoing efforts of Pimachiowin Aki to have this vast area of untouched boreal forest designated as a World Heritage Site. Ontario is proud to be a member of the partnership working to gain international recognition for the area and ensure its natural features are both valued and protected.” **Ontario Minister of Natural Resources Donna Cansfield, December 3, 2008**

Frequently Asked Questions on the IISD *“Ecosystems Services Valuation Assessment 2008”*

1. What does “Ecosystem Services” mean?

Plainly put, it means the services nature provides people. “Ecosystem services” takes into account that trees, water, air, animal life and plant life sustain and support human life and that have a measurable economic value. Our study estimated this value looking at specific type of ecosystem services.

2. Is this a new science or a new form of economics?

It may seem new to some people, but researchers and economists around the world have been developing ways to accurately measure the economic value of nature and the environment for some time. There are international methods for this kind of work and they have been used for this research. Some people like to call it green economics.

3. Where else has this kind of study been done?

IISD has done similar studies evaluating prairie water sheds as part of the efforts to restore Lake Winnipeg

(www.iisd.org/pdf/2008/ecosystem_assessment_lake_wpg.pdf)

A study by Nancy Olewiler of Simon Fraser University for Ducks Unlimited on “The Value of Natural Capital in Settled Areas of Canada.”

(www.ducks.ca/aboutduc/news/archives/pdf/ncapital.pdf)

The Canadian Boreal Initiative has completed *The Real Wealth of the Mackenzie Region: Assessing the Natural Capital Values of a Northern Boreal Ecosystem* which is ongoing. (www.borealcanada.ca/research-cbi-reports-e.php).

4. Why was this study conducted?

The UNESCO World Heritage nomination needs to be backed up with considerable research on the natural and cultural values of the area. This study will be one of several studies supporting the nomination bid. Secondly, this study will contribute to the nomination by helping us understand another important aspect of the area’s “values”. Thirdly the study helps start the discussion about alternative and creative ways to finance the operation and management of the Pimachiowin Aki area in the future. Payments for Ecosystem Services schemes are gaining importance as an economically effective way to preserve natural environments and benefit local communities.

5. If the forest is worth that much—where does that money come from and who receives it?

Most of this value is not money changing hands. But rather it's about applying a dollar value to benefits that are not normally considered part of the economy. We have identify the economic value of various ecosystem services the area provides people. Potential payment for those services is out of the scope of this report but is an idea we want to explore in looking for creative ways to finance the operation and management of the Pimachiowin Aki area.

6. How did you arrive at the valuation of \$120 million to \$131 million annually?

There were several steps.

1. The first step was to develop a land cover map of the area to show for example how much of the area is covered by forest compared to water.
2. We examined the ecosystem services by grouping them into four main areas:
 - a. Hunting, fishing, wild rice harvesting, clean water supply, trapping, medicinal plants, water for electricity.
 - b. Carbon sequestration (the value of the carbon dioxide taken out of the air and stored by trees and plants) air filtration, water treatment, erosion control, flood prevention, pest control.
 - c. Recreation (camping and canoeing), spiritual and religious benefits, cultural heritage benefits and education.
 - d. Plant pollination, biodiversity and natural habitats, soil and rock formation.
For the categories for which we could find reliable data we concluded these services had an annual economic value of Cdn\$121 to \$131 million. **(See a detail chart attached)**
3. We obtained ecosystem services values from available statistics and from recognized ecosystem valuation studies conducted earlier in similar areas.

7. Who receives benefits from the ecosystem services of this area?

This study is unique because it set out the benefits to people living on the land and people living away from the area. It showed that:

1. Residents of the area receive have \$32 million in direct benefits
2. Non-residents or visitors get about \$12 million in benefits
3. Together they shared benefits between \$75-85 million, for a total \$121 to \$130 million.

8. When is the UNESCO World Heritage Site nomination expected to be completed?

We want to complete a draft nomination in 2011. It is our hope that plans for all parts of the project area (FN traditional lands, provincial parks) will all be completed before that date and, if not, that they will be in near final stages. We want to build on these plans to define the final boundaries for the nominated area and to explain how this land will be developed and managed in the future—as expressed by each First Nation member of Pimachiowin Aki. At present only Pauingassi and Little Grand Rapids First Nations are still developing their plans. People, live and work and play in World Heritage sites and some travel great distances to enjoy them.

Detailed chart is below, to get a copy of a brief about the study and the full report see: (www.iisd.org/pdf/2008/ecosystem_valuation.pdf)

More information about these organizations see: www.pimachiowinaki.org AND www.iisd.org

Contact:

Nona Pelletier, International Institute for Sustainable Development, 204.958.7740 (office) 204.962.1303 (cell); npelletier@iisd.ca

Gord Jones, project manager, Pimachiowin Aki, 204-275-1564 (office); 204-232-8528 (cell); whp@shaw.ca

Conservative ecosystem service economic values provided by the proposed World Heritage Site (in CDN\$ million/year) ¹				
Ecosystem Service	Resident	Non-Resident	Total	Source
Food harvested from hunting activities.	2.59	0.98	3.57	<ul style="list-style-type: none"> Hunting harvest and expenditures from Manitoba Conservation. Market value of farmed wild animals from commercial outlets.
Food harvested from fishing activities.	29.05	6.05	35.10	<ul style="list-style-type: none"> Market value for commercial fishery from EcoRegion 90 study. Recreational fishing expenditures and fish replacement cost from Wikipedia, Manitoba Conservation and EcoRegion 90 study.
Food harvested from wild rice cultivation.	0.38	0	0.38	<ul style="list-style-type: none"> Wild rice yields and market values from the EcoRegion 90 study.
Clean water supplied by natural ecosystems.	0.13	0	0.13	<ul style="list-style-type: none"> Willingness to pay per Winnipeg household for improved water.
Fur harvested from trapping activities.	0.07	0	0.07	<ul style="list-style-type: none"> Total harvest and market value from Manitoba Conservation.
Water supply for producing electricity	-	-	20.17	<ul style="list-style-type: none"> River flow rates from Environment Canada and EcoRegion 90 study. Manitoba Hydro power production and gross revenues.
Regulation of atmospheric carbon dioxide concentrations by appropriating carbon.	-	-	12.32–21.27	<ul style="list-style-type: none"> Forest coverage and density based on 2000 LandSat imagery. Average value of CDN\$14.16 ha/year from Anielski & Wilson (2005).
Filtration of air pollutants by vegetation.	0.02	-	0.02	<ul style="list-style-type: none"> The WHS 's settled areas (50.42 km²) has 60 trees/km². Air filtration value of CDN\$6.66/tree from Anielski & Wilson (2005).
Removal and breakdown of water pollutants.	-	-	31.83	<ul style="list-style-type: none"> Wetland nutrient removal capacity from Olewiler (2004) Fraser Valley wastewater treatment costs from Olewiler (2004).
Lower soil losses leading to water siltation.	-	-	3.35	<ul style="list-style-type: none"> Vegetation coverage based on 2000 LandSat imagery. Water quality impact costs from Olewiler (2004).
Opportunities for recreation and refreshment.	0	3.05	3.05	<ul style="list-style-type: none"> Camping user fees and non-consumptive wildlife activity costs from Manitoba Conservation, Environment Canada, EcoRegion 90 study.
Protection of natural landscape	-	2.28	2.28	<ul style="list-style-type: none"> Willingness to pay per household in Manitoba to double the size of protected areas (CDN\$503/household) with a 1% discount rate.
Suitable living space for species to evolve and breed.	-	-	9.08	<ul style="list-style-type: none"> Willingness to pay to preserve Woodland Caribou habitat in Saskatchewan applied to Manitoba (20.23/household/year).
<i>Totals</i>	<i>32.24</i>	<i>12.36</i>	<i>121.35–130.3</i>	

¹Some ecosystem services are valued equally between resident and non-resident populations therefore the ecosystem service values can only be added along each column.